



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,199	08/09/2001	Hossein Maleki	EN11190	4401

7590

02/13/2003

Motorola , Inc.  
Law Department  
8000 West Sunrise Boulevard -Room 1610  
Fort Lauderdale, FL 33322

EXAMINER

YUAN, DAH WEI D

ART UNIT

PAPER NUMBER

1745

2

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/925,199

Applicant(s)

MALEKI ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

**SYSTEM FOR ENHANCED LITHIUM-ION BATTERY PERFORMANCE**  
**AT LOW TEMPERATURES**

Examiner: Yuan

S.N. 09/925,199

Art Unit: 1745

February 5, 2003

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 recites the limitation "the lithium ion cell" in Line 3. It is not clear what the limitation is referred to. It is suggested to change the phrase to "a lithium ion cell".

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Hallaj et al. (U.S. 6,468,689 B1).

With respect to claim 1, Hallaj et al. teach a battery assembly comprising a battery module (10). The module comprises a plurality of electrochemical cells (14,16,18,20,22,24,26,28) as shown in Figure 1. The sleeve around the cells is a phase change

material, generally designated by the reference numeral 34. Suitable phase change material for use in lithium-ion battery applications has a melting point in the range of between about 30° and 60°C, a high latent heat per unit mass ratio and a narrow melting temperature range. The phase change material permits the storage of heat for later or subsequent use or utilization. In particular, the stored heat can be rejected when the battery temperature drops during battery charge or under cold weather conditions. See Abstract; Column 3, Lines 53-62; Column 4, Lines 5-32. Hallaj et al. do not specifically disclose the phase change material acts as an insulator at relatively low temperatures and as a conductor at relatively high temperatures. However, it is the position of the examiner that such properties are inherent, given that both Hallaj et al. and the present application utilize the similar phase change material as the sleeve for lithium ion batteries. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999). With respect to claim 2 and 4, Hallaj reference teaches the electrochemical cells (14,16,18,20,22,24,26,28) can be lithium ion batteries. With respect to claim 3, Hallaj reference teaches the sleeve around the cells is a phase change material.

With respect to claim 5, Hallaj et al. teach a battery assembly comprising a battery module (10). The module comprises a plurality of electrochemical cells (14,16,18,20,22,24,26,28) as shown in Figure 1. These cells are arranged in a close packing fashion within the module. The sleeve around the cells is a phase change material, generally

designated by the reference numeral 34. Suitable phase change material for use in lithium-ion battery applications has a melting point in the range of between about 30° and 60°C, a high latent heat per unit mass ratio and a narrow melting temperature range. The phase change material permits the storage of heat for later or subsequent use or utilization. In particular, the stored heat can be rejected when the battery temperature drops during battery charge or under cold weather conditions. See Abstract; Column 3, Lines 53-62; Column 4, Lines 5-32. Hallaj et al. do not specifically disclose the phase change material acts as an insulator at relatively low temperatures and as a conductor at relatively high temperatures. However, it is the position of the examiner that such properties are inherent, given that both Hallaj et al. and the present application utilize the similar phase change material as the sleeve for lithium ion batteries. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999). With respect to claim 6, Hallaj reference teaches the sleeve around the cells is a phase change material.

With respect to claim 7, Hallaj et al. teach a battery module (jacket) that accommodates a plurality of batteries. The module has a plurality of cavities that is complementary in shape to a battery. The sleeve around the cells is a phase change material, generally designated by the reference numeral 34. Suitable phase change material for use in lithium-ion battery applications has a melting point in the range of between about 30° and 60°C, a high latent heat per unit mass ratio and a narrow melting temperature range. The phase change material permits the storage of heat for later or subsequent use or utilization. In particular, the stored heat can be rejected when

the battery temperature drops during battery charge or under cold weather conditions. See Abstract; Column 3, Lines 53-62; Column 4, Lines 5-32. Hallaj et al. do not specifically disclose the phase change material acts as an insulator at relatively low temperatures and as a conductor at relatively high temperatures. However, it is the position of the examiner that such properties are inherent, given that both Hallaj et al. and the present application utilize the similar phase change material as the sleeve for lithium ion batteries. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999). With respect to claim 8, Hallaj reference teaches the sleeve around the cells is a phase change material.

5. Claims 7,8 are rejected under 35 U.S.C. 102(e) as being anticipated by Salyer et al. (U.S. 6,192,703 B1).

With respect to claim 7, Salyer et al. teach a highly insulated and light weight container (26). See Figure 3. The container (jacket) is useful for transporting the temperature-sensitive material to various remote areas comprising of a housing, a lid assembly and insulating vacuum panels. A thermal energy storage phase change material is used in the interior of the container and is in intimate contact with the temperature sensitive material (i.e., the phase change material defines a cavity) to maintain a constant temperature plateau. See Column 5, Lines 11-22. Salyer et al. do not specifically disclose the phase change material acts as an insulator at relatively low temperatures and as a conductor at relatively high temperatures. However, it is the position of

the examiner that such properties are inherent, given that both Salyer et al. and the present application utilize the similar phase change material for temperature sensitive material, such as lithium ion batteries. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999). With respect to claim 8, Salyer reference teaches the material employed in the container is a phase change material.

It is also the position of the examiner that the intended use "for a battery for facilitating battery use in various temperature environments" in the claim 7 does not add structure to the claim. Intended use of a known compound does not give it patentable weight. See *In re Thuau*, 57 USPQ 324, CCPA 979 135 F2d 344, 1943.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (703) 308-0766. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Art Unit: 1745

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Dah-Wei D. Yuan  
February 5, 2003

  
**Patrick Ryan**  
**Supervisory Patent Examiner**  
**Technology Center 1700**